In the Claims:

The following listing of claims replaces all prior versions and listings of the claims

1. – 16. (canceled)

17. (Currently amended) An arrangement (1) for real-time control of a welding operation that utilizes a welding head (11), said arrangement comprising:

a device (2) for monitoring a welding area of an object (14) during welding, said device (2) comprising

means for reproducing (3) the welding area;

at least one filter (4) arranged in front of or in the reproduction means (3); and

means, other than said welding head (11), for illuminating (5) the welding area with ultraviolet radiation having at least one predetermined ultraviolet wavelength;

wherein said filter (4) comprises a band-pass filter configured for filtering around the predetermined ultraviolet wavelength;

computer means (9) for processing [[an]] a reproduction image of the welding area produced by the reproduction means (3); and

means (10), responsive to said computer means (9), for controlling one of at least one welding parameter and the position of the welding head (11) on the basis of information from the reproduction image.

18. (Currently amended) The arrangement as recited in claim 17, wherein said image-processing means (9) is adapted to measure weld width from the reproduction image.

19. (Previously presented) The arrangement as recited in claim 17, wherein said image-processing means (9) is adapted to detect at least one of the position of a welding joint, a gap between two parts to be welded together, and geometry of a weld melt.

20. (Currently amended) A method for monitoring a welding area of an object (14) during a welding process that utilizes a welding head, said method comprising:

during said welding process, illuminating the welding area with ultraviolet radiation of a predetermined ultraviolet wavelength by means of a source other than said welding head;

using a means (3) for reproduction, reproducing the welding area while it is being welded; and

filtering radiation from the welding area in a direction toward said means (3) for [[said]] reproduction, said filtering being carried out using a band-pass filter (4) around the predetermined ultraviolet wavelength.

21. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength lies within a wavelength range of 280-450 nm.

22. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength is shorter than 400 nm.

23. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength is shorter than 380 nm.

24. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength is longer than 300 nm.

25. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength is approximately 365 nm.

26. (Previously presented) The method as recited in claim 20, wherein said predetermined wavelength is approximately 320 nm.

27. (Previously presented) The method as recited in claim 20, wherein said band-pass filter (4) is adapted for filtering within a range which is smaller than 90 nm FWHM around said predetermined wavelength.

28. (Previously presented) The method as recited in claim 20, wherein said band-pass filter (4) is adapted for filtering within a range which is smaller than 70 nm FWHM around said predetermined wavelength.

29. (Previously presented) The method as recited in claim 20, wherein said band-pass filter (4) is adapted for filtering within a range which is smaller than 30 nm FWHM around said predetermined wavelength.

30. (Previously presented) The method as recited in claim 20, wherein said band-pass filter (4) is adapted for filtering within a range which is approximately 10 nm FWHM around said predetermined wavelength.

31. (Currently amended) The method as recited in claim 20, further comprising:

processing [[an]] a reproduction image of the welding area produced by the reproduction means (3); and

controlling at least one of welding parameters and the position of said welding head (11) based on information obtained from the processed reproduction image.

32. (Previously presented) The method as recited in claim 31, wherein the width of a reproduced welding joint is measured, and said welding parameters and position of the welding head (11) are controlled on the basis of the measured weld width.

33. (Previously presented) The method as recited in claim 32, wherein the measured weld width is compared with one or more reference values and, in the event of deviation from an approved range being detected, said welding parameters and position of the welding head (11) are adjusted.

34. (Previously presented) The method as recited in claim 31, wherein the position of a welding joint and a gap between two parts to be welded together and the geometry of a weld melt are detected, and said welding parameters and position of the welding head are controlled on the basis thereof.

35. (Canceled)

36. (Canceled)

37. (Previously presented) A device (2) for monitoring a welding area of an object (14) during a welding operation that utilizes a welding head, said device comprising:

means, other than the welding head, for illuminating (5) the welding area with ultraviolet radiation having at least one predetermined wavelength;

means for reproducing (3) the welding area; and

at least one filter (4) arranged in front of or in the reproduction means (3), said filter (4) comprising a band-pass filter configured for filtering around said predetermined wavelength;

wherein said means for illuminating and said means for reproducing are positioned generally proximate the welding head during operation thereof.

38. (Canceled)

39. (Previously presented) The device as recited in claim 37, wherein said illumination means illuminates the welding area with ultraviolet radiation across a predetermined ultraviolet wavelength range that includes said predetermined ultraviolet wavelength.

40. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is centered with respect to the predetermined ultraviolet wavelength at which the illumination means emits rays.

41. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter lies within a wavelength range of 280-450 nm.

42. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is shorter than 400 nm.

43. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is shorter than 380 nm.

44. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is longer than 300 nm.

45. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is approximately 365 nm.

46. (Previously presented) The device as recited in claim 39, wherein the wavelength of the band-pass filter is approximately 320 nm.

47. (Previously presented) The device as recited in claim 39, wherein the band-pass filter is adapted for filtering a wavelength range that is smaller than 90 nm FWHM around said predetermined ultraviolet wavelength.

48. (Previously presented) The device as recited in claim 39, wherein the band-pass filter is adapted for filtering a wavelength range that is smaller than 70 nm FWHM around said predetermined ultraviolet wavelength.

49. (Previously presented) The device as recited in claim 39, wherein the band-pass filter is adapted for filtering a wavelength range that is smaller than 30 nm FWHM around said predetermined ultraviolet wavelength.

50. (Previously presented) The device as recited in claim 39, wherein the band-pass filter is adapted for filtering a wavelength range that is smaller than 10 nm FWHM around said predetermined ultraviolet wavelength.

51. (Previously presented) The device as recited in claim 39, wherein said reproduction means (3) comprises a camera.

52. (Previously presented) The device as recited in claim 51, wherein said device further comprises a diaphragm (16) arranged in front of the camera.

53. (Previously presented) The device as recited in claim 51, wherein said device comprises an attenuating filter.

54. (Previously presented) The device as recited in claim 53, wherein said diaphragm (16) has a relatively small aperture means (9) for processing an image produced by the camera (3), which aperture means (9) comprises a central processing unit (CPU) or computer.

55. (Previously presented) A device (2) for monitoring a welding area of an object (14) during a welding operation that utilizes a welding head, said device comprising:

means for reproducing (3) the welding area;

at least one filter (4) arranged in front of or in the reproduction means (3); and

means, other than the welding head, for illuminating (5) the welding area with ultraviolet radiation;

wherein said filter (4) comprises a band-pass filter configured for filtering around a wavelength within the ultraviolet wavelength range, and wherein said band-pass filter (4) is adapted for filtering within a range which is smaller than at least one of the following: (a) 90 nm FWHM around said filter wavelength, (b) 70 nm FWHM around said filter wavelength, (c) 30 nm FWHM around said filter wavelength, and (d) 10 nm FWHM around said filter wavelength.

56. (Previously presented) A method for monitoring a welding area of an object (14) during a welding process that uses a welding head, said method comprising:

illuminating the welding area with ultraviolet radiation;

reproducing the welding area with a means for reproduction; and

filtering radiation from the welding area in a direction toward said means (3) for reproduction, said filtering being carried out using a band-pass filter (4) around a wavelength within the ultraviolet wavelength range, and wherein said band-pass filter (4) is adapted for filtering within a range which is smaller than at least one of the following: (a) 90 nm FWHM around said filter wavelength, (b) 70 nm FWHM around said filter wavelength, (c) 30 nm FWHM around said filter wavelength, and (d) 10 nm FWHM around said filter wavelength.